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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/989,436 | 11/21/2001 | Masato Yoshikawa | K-2021 | 1594 |
| 7590 | 10/16/2003 | | EXAMINER | |
| KANESAKA AND TAKEUCHI 1423 Powhatan Street Alexandria, VA 22314 | | | MCDONALD, RODNEY GLENN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1753 | |

DATE MAILED: 10/16/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | | | |
|-----------------|--------------------|--------------|------------------|
| Application No. | 09/989,436 | Applicant(s) | YOSHIKAWA ET AL. |
| Examiner | Rodney G. McDonald | Art Unit | 1753 |

-- The MAILING DATE of this communication app ars on the cover sheet with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION:

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 05 August 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.
- 4) Claim(s) 1,5,7,8,10-13,22,26,28,29,31-35,41 and 42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,5,7,8,10-13,22,26,28,29 and 31-35 is/are rejected.
- 7) Claim(s) 41 and 42 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) Other: _____

DETAILED ACTION***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 5, 7, 8 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al. (U.S. Pat. 6,495,253).

Koyama et al. teach in ***Fig. 2 a touch panel***. The ***transparent conductive film sheet 6*** shown in Fig. 2 is produced by forming a hard coat film 4 on the surface of the easy adhesion film for a transparent conductive thin film 1 opposite to the surface provided with the easy adhesion layer 3, and forming a transparent conductive film 5 such as an ITO film or the like on the easy adhesion layer 3. (Column 3 lines 45-52)

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The easy adhesion film for a transparent conductive thin film 1 is produced by forming the easy adhesion layer 3 on **a transparent polymer film 2. The easy adhesion layer 3 is composed of at least an ionizing radiation curable resin binder, a thermoplastic resin binder and two or more kinds of matting agents having different average diameters.** (Column 3 lines 53-58)

As a transparent polymer film 2, one which does not inhibits transparency, such as polyethylene terephthalate, polybutylene terephthalate, polycarbonate, polypropylene, polyethylene, acrylic resins, acetyl cellulose and vinyl chloride, can be used. A stretched film, particularly biaxially stretched film, is preferable for its improved mechanical strength and dimensional stability. **The thickness can be appropriately selected depending on the material to be used, but, in general, is 20-500 micrometers, preferably 50-200 micrometers.** (Column 3 lines 59-68)

The easy adhesion layer 3 formed on the transparent polymer film 2 is excellent in anti-abrasion property and adhesion property to **the transparent conductive thin film 5 such as an ITO.** (Column 4 lines 1-4)

The easy adhesion layer can be formed by applying a composition including, as main ingredients, an ionizing radiation curable resin binder and a thermoplastic resin binder, and two kinds of matting agents having different average diameters, and then exposing to ionizing radiation (UV or electron beam) to cross-link and cure the coating. (Column 4 lines 15-20)

The ionizing radiation curable resin may be composed of a paint, which can be cross-linked and cured by exposure to ionizing radiation (**UV** or electron beam). As the

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ionizing radiation curable paint, one or more kinds of a photopolymerizable prepolymer or photopolymerizable monomer can be used. (Column 4 lines 21-25)

As the photopolymerizable prepolymer, an acrylic prepolymer, which has two or more acryloyl groups per molecule and becomes a three-dimensional network structure after cross-linking and curing is particularly preferable. Usable acrylic prepolymers include urethane acrylate, polyester acrylate, epoxy acrylate, melamine acrylate and the like. (Column 4 lines 26-33)

An amount of the ionizing radiation curable resin binder is preferably **70-97% weight of a total amount of binders constituting the easy adhesion layer 3.**
(Column 4 lines 45-47)

Usable matting agents contained in the easy adhesion layer 3 include one or more kinds inorganic or organic micro-particles such as silica, alumina, titanium dioxide, calcium carbonate, bariumsulfate, zirconiumoxide, talc, clay, aluminiumstearate, calcium stearate, zinc stearate, styrene resin, acrylic resin, silicone resin and the like. Two or more kinds of different average diameters are used in mixture.
(Column 5 lines 17-25)

According to a preferable embodiment, the two or more kinds of the matting agent having different average diameters are at least one kind of relatively large matting agent having an ***Average diameter of 1-15 micrometers and relatively small matting agent having an average diameter of 5-50 nm.*** The mixing ratio of the larger matting agent having an average diameter of 1-15 .mu.m is 1-8 weight parts, preferably 2-6 weight parts based on 100 weight parts of the resin binder. The ratio of the smaller

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matting agent having an average diameter of 5-50 nm is 1-8 weight parts, preferably 2-6 weight parts based on 100 weight parts of the ionizing radiation curable resin. (Column 5 lines 26-37)

The thickness of the easy adhesion layer 3 is not limited so long as it is within the range enabling the aforementioned properties to be obtained, but can be appropriately adjusted ***within a range of 2-15 micrometers, preferably 3-8 micrometers.*** (Column 6 lines 4-7)

An ITO film, i.e., a transparent conductive thin film, having a thickness of about 25 nm was formed on the easy adhesion layer 3 by sputtering. (Column 9 lines 50-53)

The differences between Koyama et al. and the present claims is the range of thicknesses and the weight percentage of the UV curing resin are not discussed.

As to the range of thicknesses and the weight percentage of the UV curing resin it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the portion of the prior art's range which is within the range of applicant's claims because it has been held to obvious to select a value in a known range by optimization for the best results, see *In re Aller, et al.*, 105 U.S.P.Q. 233.

Claims 22, 26, 28, 29 and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hideki (Japan 10-171599) in view of Koyama et al. (U.S. Pat. 6,495,253).

Hideki et al. is discussed above and all is as applies above. (Hideki et al. is discussed above and all is as applies above)

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The differences between Hideki et al. and the present claims is the range of thicknesses, replacing the silicon dioxide film with Koyama et al.'s adhesion film and the ranges of the thicknesses and the weight percentage of the UV curing resin.

As to the range of thicknesses it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the portion of the prior art's range which is within the range of applicant's claims because it has been held to obvious to select a value in a known range by optimization for the best results, see In re Aller, et al., 105 U.S.P.Q. 233.

Koyama et al. teach utilizing a UV curable resin with particles for the adhesion film. (See Koyama et al. discussed above)

As to the range of thicknesses and the weight percentage of the UV curing resin it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the portion of the prior art's range which is within the range of applicant's claims because it has been held to obvious to select a value in a known range by optimization for the best results, see In re Aller, et al., 105 U.S.P.Q. 233.

The motivation for utilizing Koyama et al.'s adhesion film is that it allows for increasing adhesion of the conductive thin film to the polymer film while preventing glare. (Column 2 lines 2-7)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Hideki by utilizing Koyama et al.'s adhesion film because it allows for increasing adhesion of the conductive film while preventing glare.

Response to Arguments

Applicant's arguments filed 8-5-03 have been fully considered but they are not persuasive.

RESPONSE TO ARGUMENTS:

In response to the argument that the claimed invention does not use a resin binder and thermoplastic binder as required by Koyama et al., it is argued that the comprising language of the claims allows for the use of a resin binder and thermoplastic binder. (See Koyama et al. discussed above)

In response to the argument that the claimed silicon compound is different from the matting agents of Koyama et al. with two different average diameters, it is argued that the silica matting agent of Koyama et al. is the SiO_x part needed for Applicant's primary layer. Furthermore, Koyama et al.'s silica matting agent is a particle which can have the same diameter and be present in a UV curing resin at 70-97% by weight as is required by Applicant's claims. (See Koyama et al. discussed above)

In response to the argument that Koyama et al. do not teach utilizing acryl groups with the particles of silicon compound, it is argued that acryl groups can exist with the particles of silicon compound in Koyama et al.'s adhesion layer which is suggest at Column 4 line 26-33.

In response to the argument that Koyama et al. does not teach a multi-lamination film, it is argued that Hideki was relied upon to teach the multi-lamination film. (See Hideki discussed above)

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In response to the argument that Hideki does not teach a primary layer as Applicant's claims, it is argued that Koyama et al. teach the primary layer as required by Applicant's claims. The primary layer in Koyama et al. serves as an adhesion layer. (See Hideki and Koyama et al. discussed above)

It should be noted that Sato et al. (WO 00/16251) has been withdrawn.

Allowable Subject Matter

Claims 41 and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claims 41 and 42 are indicated as being allowable over the prior art of record because the prior art of record does not suggest utilizing the claimed silicon compounds of claims 41 and 42.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 703-308-3807. The examiner can normally be reached on M- Th with Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 703-308-3322. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Rodney G. McDonald
Primary Examiner
Art Unit 1753

RM
October 14, 2003